

# Assessment of Teachers' Research Capability towards the Promotion of Research Culture in Elementary Schools

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**Abstract** – Research had irrefutably displayed its importance in the field of education. However, amidst the increasing developments in the teaching practices from the research results and findings, conducting research remains to be one of the waterloos of most teachers, especially in basic education. Hence, this study was conducted to assess the capability of Elementary school teachers in conducting research. Descriptive research design was utilized, and data were obtained through online survey from 32 teachers coming from different public elementary schools in Mariveles District. The gathered data were encoded and analysed in SPSS using descriptive and inferential statistics. Findings of the study revealed that most of the respondents had no research activity yet. Findings of the study revealed that teachers are slightly capable of performing activities related to conducting educational research. This means that they can write a research proposal with close supervision of an expert. Furthermore, there were significant variations in their research capabilities when grouped by their position, highest educational attainment, and level of seminars attended. Post-hoc analysis revealed that teachers who hold a higher position and educational attainment; and have attended higher level of seminar are more capable of writing a research proposal than the other teachers. A training design was proposed based on the results of the study to enhance teachers' capability in doing educational research.

**Keywords** – Elementary schools, elementary teachers, research capability

## INTRODUCTION

Research's major goal is to improve quality of life. This concept alone demonstrates the value of research. It has provided with fresh knowledge and insights into a variety of life concerns, as well as assisting in making informed decisions and solving problems. In the area of education, research is an academic activity carried out by educators who are constantly advocating learning, discovering new information, evaluating data, modifying behavior, and increasing modern educational standards and teaching quality. This would result to valid scientific conclusions in research that could be used to solve problems [1], improve teaching, and improve students' learning [2].

Furthermore, conducting research is essential for school administrators and instructors to face challenges thus improving as educators. Research has long been considered as a tool for transforming educational practice while also contributing to the body of knowledge in the field. Research has the ability to help improve and transform educational practices [3].

The Commission on Higher Education (CHED) is responsible for the development of research functions of HEIs in the Philippines, as stated in Section 8 of

Republic Act (RA) No. 7722. CHED is also mandated to facilitate collaboration and expertise sharing between and among higher education institutions (HEIs), research agencies/organizations, and individual scientists and researchers, all of which are deemed critical mechanisms for promoting and developing research capability and increasing research productivity [4].

Universities in the Philippines, in accordance with the mandate, take the lead in doing research, whether individually or cooperatively, by academic members. This is to encourage high-quality instruction, expand knowledge, and improve people's lives which makes teaching an evidence-based profession [5]. Collaboration in research amongst university professors and elementary school teachers not only strengthens their linkages but also results in professional competent, research-oriented, and productive faculty members who are capable of the university's growth and sustainability toward greatness.

Apparently, the Higher Education has the primordial mandate to conduct research, while in basic education, research is simply secondary to the teaching tasks of teachers. The Department of Education

(DepEd) has a strong drive to motivate teachers to conduct research. Several directives had been instituted by the DepEd to provide funding and improve research culture. These can be seen in DepEd Orders that are intended to finance the conduct of education-related researches/studies through the Basic Education Research Fund (BERF) such as the DepEd Order (DO) No. 24 s. 2010, DO No. 43 s. 2015, and DO No 4 s. of 2016. Also, DepEd Order No. 16, s. 2017 provides Research Management Guidelines (RMG). Further, the policy mentions research as one of the critical performance indicators in the new Result-based Performance Management System (RPMS), hence, it becomes a part of the teacher's tasks. The DO No. 39 s. 2016 promulgates the Basic Education Research Agenda (BERA), which sets different research priorities.

Despite the department's mandates, initiatives, and programs, teachers' research productivity in our country's basic education remains low [6]-[7]. Furthermore, a study revealed that teachers in basic education are still adjusting to action research as part of their educational culture [8]. This is likewise the case in the Schools Division of Bataan-Mariveles Annex. This scenario prompted researchers to conduct this study which assessed the research capability of the elementary teachers in the said district. The study recommended an extension project proposal in collaboration with SDO Bataan – Mariveles Annex where teachers submitted action research proposals as outputs under the close supervision of facilitators. The close supervision is stipulated in one of the conclusions of the study which yields favorable outcomes in the extension project conducted.

### **OBJECTIVES OF THE STUDY**

This study aimed to determine the research capability of public elementary school teachers in a SDO Bataan – Mariveles Annex to improve their skills in writing and conducting research.

Specifically, the study presented the profile of the respondents in terms of gender, age, highest educational attainment, academic ranks, length of service, attendance to seminars/trainings related to research, and research activities of teachers. In addition, the study determines the research capability of teachers in terms of formulating research problems, writing literature review, designing research, determining quantitative research, determining qualitative research, and completing other parts of the research proposal. Finally, the study tests the

significant difference on the responses of the Teachers' Research Capabilities when grouped by profile.

### **MATERIALS AND METHODS**

#### **Research Design**

This study employed the descriptive method of research using survey to assess the capability of the respondents in conceptualizing and writing a research proposal.

#### **Instrument of the Study**

The survey-questionnaire was face validated and had undergone a reliability test before it was administered online. This consisted of three parts. The first part deals with the profile of the respondents while the second part gathers information about their research activities. Lastly, the third part elicits information on how the respondents assess their capabilities to the tasks related to writing a research proposal such as conceptualizing research, formulating research problems, writing literature review, designing research, determining quantitative research, determining qualitative research design, and completing other parts of the research proposal. The researchers made use of the DepEd Research Management Guidelines as basis for creating the third part of the survey-questionnaire.

#### **Respondents of the study**

A nonprobability sampling was used to gather the data from the respondents which composed of 32 public elementary school teachers in the SDO Bataan – Mariveles Annex with inclusion and exclusion criteria such as elementary teachers who hold permanent position, and willing to be trained or undergo a research capability training program.

#### **Data gathering procedure and Analysis**

Gathered data were encoded and analysed using SPSS. Percentages, mean scores and post-hoc analysis using Tukey HSD were used in the study. The research capability of the respondents was interpreted using a scale of means with the following verbal interpretations: Highly Capable (HC), Capable (C), Moderately Capable (MC), Slightly Capable (SC), and Not Capable (NC).

Prior to the data gathering, the researchers explained all the procedures to the respondents and distributed informed consent to each respondent stating all the responsibilities and benefits of the study. The

respondents were assured of full confidentiality of all the information that will be gathered from them.

## RESULTS AND DISCUSSION

The study revealed the necessity to further capacitate the teachers in the conduct of research as reflected in the following results.

Majority (84.4%) of the respondents are female, while only 5 (15.6%) are male. In terms of age, most of the respondents are young teachers as more than half (62.5%) of the teachers are 20 to 39 years old. The remaining percentage is comprised of teachers who are in the middle age, 21.9% of the teachers with ages between 40 to 49 years old, and 12.5% of them are 50 to 59 years old. There is only one among them who is above 59 years old. This shows that elementary schools are composed of both young and seasoned teachers.

A great majority (71.9%) of teachers are pursuing graduate education and have earned master's units, while 18.7% of them have not yet taken graduate education programs. On the other hand, only 3 or 9.4% of the teachers have completed their master's degree program. It would mean that only a few of the teachers have experienced writing a full-blown research paper.

Data also indicate that all the respondents are classified as proficient teachers in the Philippine Professional Standards for Teachers (PPST). Almost half (43.7%) of the respondents are in the entry-level position or Teacher I, 5 or 15.6% of them are Teachers II, 11 or 34.4 are Teacher III, and 2 or 6.3% are Master Teacher I. In the PPST, only those highly proficient teachers or Master Teacher I-IV are required to conduct research. However, although it not required for Teachers I to III, it is a plus factor especially if they are aiming for higher teaching positions.

In terms of their length of service, there are 12 or 37.5% of them who have rendered 0 to 5 years. Nine or 28.1% of them have been teaching for 6 to 10 years, while 7 or 21.9% of them are in the service for 6 to 10 years. Teachers who have been teaching for 16 to 20 years and 21 years and above have the same frequency of 2 or 6.3%.

In terms of seminars/trainings, more than half (59.4%) of the teachers had attended seminars/training related to research in a school level only. There are 6 or 18.7% of them who had attended research seminars in the district level, 4 (12.5%) in the division level, and 3 (9.4%) in the international level. This may indicate that teachers have very limited exposure to seminars and

trainings related to research.

In terms of the research activities of teachers, majority (93.8%) of them have no research activity from the time they started working as elementary teachers. There are two (2) respondents with research activity, however, only 1 (3.1%) had passed the screening process and were able to conduct the research process but not yet completed during the conduct of the training needs analysis. Also, it shows that 1 (3.1%) researcher attempted to submit research proposal, but it was disapproved during the screening process. This information may imply that teachers have limited knowledge and skills or lack the capabilities in doing educational research. This also indicates poor research productivity rates among schools in the District of Mariveles.

**Table 1.** *Summary of Teachers' Research Capability*

Items	M	SD	VI
Formulating research problems	2.43	.620	SC
Writing literature review	2.53	.671	SC
Designing research	2.43	.620	SC
Determining quantitative research	2.26	.589	SC
Determining qualitative research	2.06	.529	SC
Completing other parts of the research proposal	2.41	.593	SC

Scale of Means	Descriptive Equivalent	Description
4.20-5.00	Highly Capable (HC)	can do the task independently and can assist others in doing it
3.40-4.19	Capable (C)	can do the task independently
2.60-3.39	Moderately Capable (MC)	can do the task with minimal supervision
1.80-2.59	Slightly Capable (SC)	can do the task with close supervision
1.00-1.79	Not Capable (NC)	cannot perform the task

Table 1 summarises the teachers' research capability It described as Slightly Capable in terms of conceptualizing research, formulating research problems, writing literature review, designing research, determining quantitative research, determining qualitative research design, and completing other parts of the research proposal. Slightly Capable means that the teacher-respondents can do the tasks but with close supervision of a research mentor.

In terms of formulating research problems, teachers are slightly capable of writing the general and specific problems of the study, formulating the hypothesis based on the specific problems, discussing the significance of the study, and determining the scope and limitation of the study. Moreover, in terms of writing the literature review, teachers are slightly capable of determining keywords that lead to related

literatures, organizing literature search based on themes, determining the information in the literature, citing references using the APA citation style, and using reference management system like Mendeley and EndNote.

It could be inferred that teachers had a limited knowledge in writing action research that needed expert support. The results confirmed similarities to the characteristics of teachers in the study of reference [9] where teachers exhibited inadequate knowledge in the conduct of action research which leads to writing anxieties.

In terms of designing research, teachers are slightly capable of identifying and making use of appropriate research design, determining appropriate data collection method, and constructing appropriate research instrument. They are also slightly capable of ensuring the validity and reliability of research instrument. Furthermore, in terms of determining quantitative research design, teachers are slightly capable of formulating null hypotheses based on the problems, deciding on the suitable sample size and sampling technique. They are also slightly capable of identifying the needed data for the study and determining the appropriate statistical tools/treatment. Furthermore, they are slightly capable in applying statistical tools/treatment using excel, SPSS, STATA and other similar soft wares.

It could be inferred that teachers were having struggles in planning. Similarly, reference [10] in his published study revealed that teachers had a high level of difficulty in research processes and moderately capable of action planning. Moreover, reference [11] also revealed in their study that teachers only have fair skills in selecting and developing research instruments and choosing appropriate statistical tools.

In terms of determining qualitative research design, teachers are slightly capable of formulating guide questions, deciding the appropriate participants and sampling procedure, identifying the data gathering technique appropriate for the study, determining appropriate strategies in organizing and analysing data.

The results revealed that teachers need expert support in terms of determining the technicalities of the action research which validates the claims of reference [12] that teachers were moderately capable in terms of technical writing of research.

Lastly, in terms of completing other parts of the research proposal, teachers are slightly capable of preparing timetable/Gantt Chart/Workplan, determining the allowed expenses and prepare cost

estimates, making a plan for dissemination and utilization of research results, preparing the list of references, preparing the letters and accomplishing forms required in the completion of the proposal.

**Table 2.** *Variations on Teachers' Research Capabilities when grouped by Profile*

Profile	F-value	Sig.	Interpretation
Sex	1.699 (t)	.158	Not Significant
Age	.981	.434	Not Significant
Highest Educational Attainment	7.730	.002	Significant
Position	7.582	.001	Significant
Length of Service	1.362	.273	Not Significant
Seminars/Trainings	11.426	.000	Significant

Table 2 shows the variations on teachers' research capabilities when grouped by profile. As shown, there are significant variations on teachers' research capabilities when grouped by highest educational attainment ( $F= 7.730$ ,  $Sig.= .002$ ), position ( $F= 7.582$ ,  $Sig.= .001$ ), and seminars/trainings ( $F= 11.426$ ,  $Sig.= .000$ ). These findings corroborate various studies which found that teachers' capability in doing educational research varied in terms of their academic rank [13,14], highest educational status [13], and the number of training attended related to research [14,15]. Post-hoc analysis using Tukey HSD showed that teachers with master's degrees tend to be more capable of writing a research proposal than those who are college degree holders or with only master's degree units taken. Reference [17] indicated that teachers who had finished programs in graduate schools were capable to do research. The author suggested that pursuing higher education studies would lead to high-quality research output. In addition, the authors in reference [18] found out that teachers who attained higher educational attainment have improved researcher skills and are more knowledgeable in the research process, and dissemination. Furthermore, the present study revealed that teachers who hold Master Teacher positions are more capable than those with Teacher I-III ranks. Authors in references [13,16] found out in their studies that the position or academic rank is one of the factors that influence the research capability of teachers. Teachers with higher academic ranks or positions are those who were able to acquire higher educational attainment. Lastly, those who attended international seminars gained more capability than those who only attended school and district level seminars and training. Several studies have indicated that teachers were capable of conducting research through various training they attended related to research [15,16,19].

**Table 3. The Training Design**

Activity	Outcomes	Time Frame	Persons Involved
Session 1 DepEd Research Agenda/ Research Format of DepEd/ Brainstorming for possible research topic	Participants should be able to: 1. Determine the research agenda of DepEd 2. Familiarize with the research format of DepEd 3. Produce research topic 4. Produce background of the study	1 Day	-Resource Speaker -Faculty Members of PUP Bataan as Trainers/Facilitators, Elementary -Teachers from the District of Mariveles
Session 3 Reading on Related Studies	Participants should be able to: 1. Determine possible sources of related studies 2. Differentiate legitimate and not legitimate sources of related studies 3. Produce review of related studies and literatures	1 Day	-Resource Speaker -Faculty Members of PUP Bataan as Trainers/Facilitators, Elementary -Teachers from the District of Mariveles
Session 4 Understanding Ways to Collect Data	Participants should be able to: 1. Determine ways to collect data 2. Create procedures on how to collect data	1 Day	-Resource Speaker -Faculty Members of PUP Bataan as Trainers/Facilitators, Elementary -Teachers from the District of Mariveles
Session 5 Finding Answers to the Research Questions/ Statistical Treatment	Participants should be able to: 1. Determine appropriate statistical treatment on answering statement of the problems 2. Produce statistical analysis/ treatment for the study	1 Day	-Resource Speaker -Faculty Members of PUP Bataan as Trainers/Facilitators, Elementary -Teachers from the District of Mariveles
Session 6 All About Plagiarism	Participants should be able to: 1. Determine the types of plagiarism 2. Know how to avoid plagiarism	1 Day	-Resource Speaker -Faculty Members of PUP Bataan as Trainers/Facilitators, Elementary -Teachers from the District of Mariveles
Completing the parts and Finalization of the research proposal	Participants should be able to submit their research proposal to the Schools Division Office of Bataan	1 to 2 Months	Faculty Members of PUP Bataan and the Elementary Teachers of DepEd Mariveles District

### CONCLUSION AND RECOMMENDATION

Considering the research activities of the respondents, it can be said that the elementary teachers are inexperienced in writing and conducting research. In terms of their research capabilities, they are slightly capable of conceptualizing research, formulating research problems, writing literature review, designing research, determining quantitative research, determining qualitative research design, and completing other parts of the research proposal. Slightly Capable means that the teacher-respondents can do the tasks but with close supervision of a research mentor.

With this, a district-wide training-workshop on research is suggested to be conducted among the public elementary school teachers in Mariveles. To ensure that the training-workshop will be productive, there should be facilitators or research experts to guide and closely monitor teachers' progress in research processes from conceptualization to proposal submission.

Furthermore, significant variations were found on teachers' research capabilities when grouped by educational attainment, position, and seminars/trainings attended. Teachers who hold a higher position and educational attainment; and have attended higher level of seminar are more capable than the other teachers. Thus, it is also strongly recommended to encourage teachers to aspire professional advancement through post graduate studies and provide opportunities to attend international seminars and conferences.

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